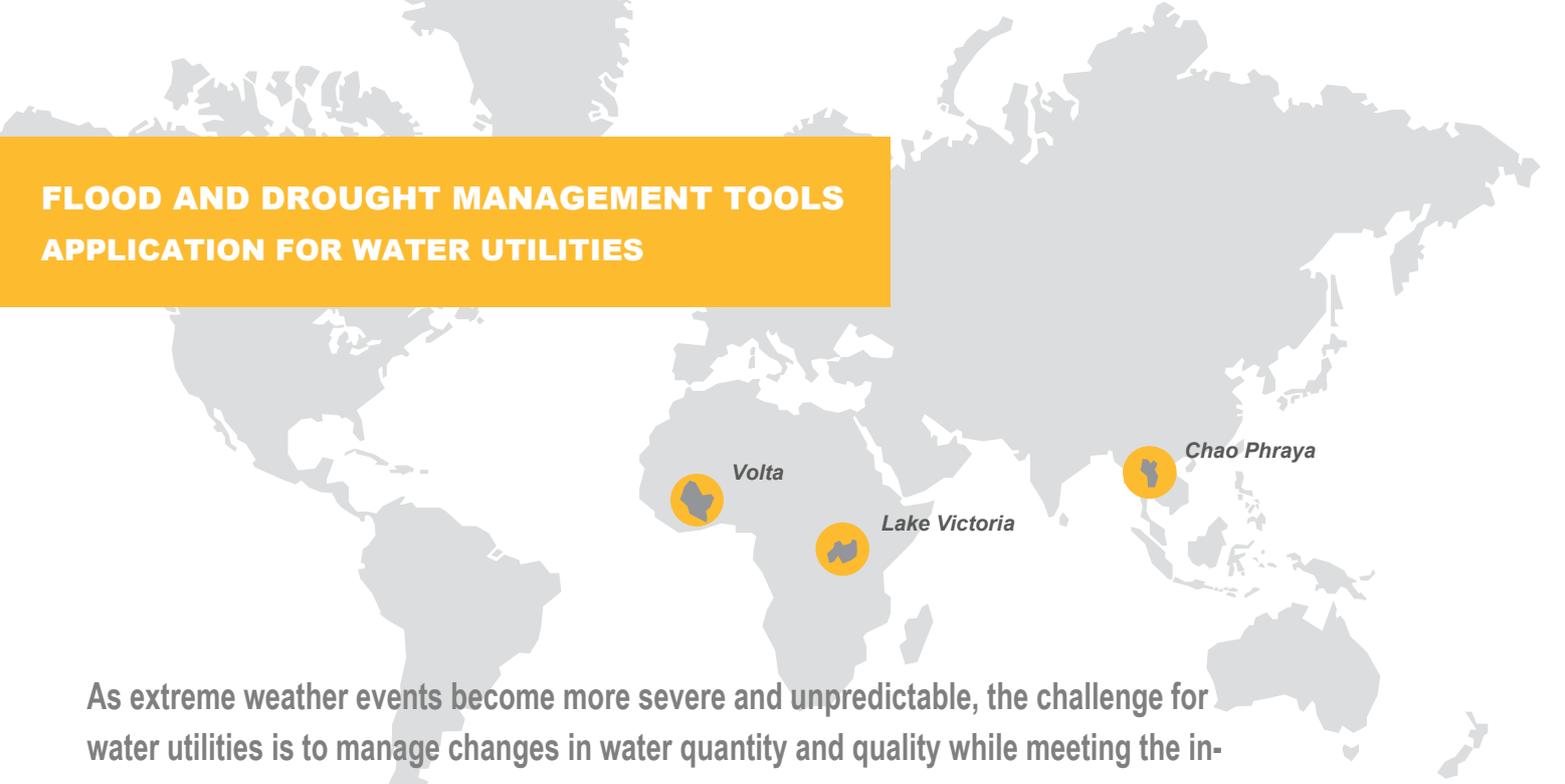


FLOOD AND DROUGHT MANAGEMENT TOOLS APPLICATION FOR WATER UTILITIES

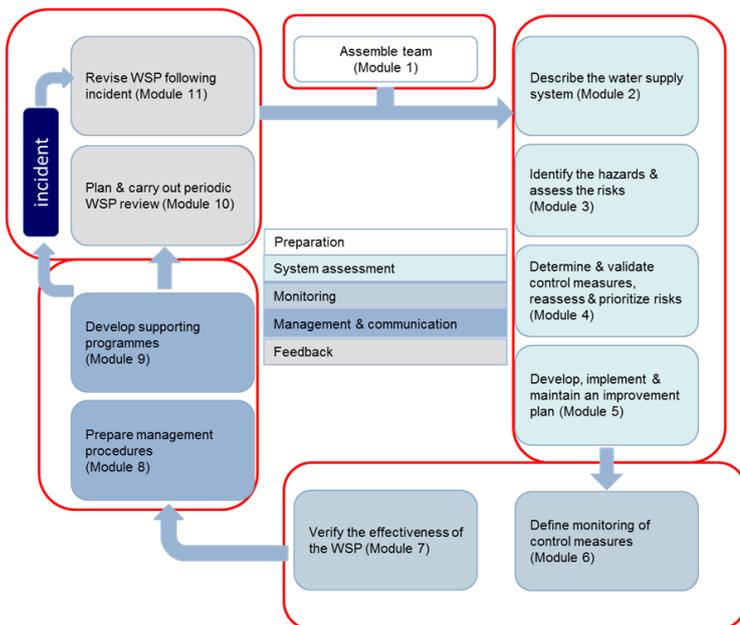


As extreme weather events become more severe and unpredictable, the challenge for water utilities is to manage changes in water quantity and quality while meeting the increasing demand for safe water. Tools helping water utilities respond to these changes, are crucial to reduce the economic, social and environmental impacts.

Improved planning in a changing climate

Water utilities exist to supply safe water. The primary threat for water utilities is failing the service provision. Therefore, climate change is a growing concern for water utilities, adding a level of complexity to their long-term planning and demand management. Changes in rainfall patterns, which can lead to flood and drought events, jeopardise utilities' ability to draw, treat and provide water to consumers. The health and environmental consequences of an extreme weather event can be severe; the ability of water utilities to respond is dependent upon their level of preparedness.

Using approaches for risk management, such as Water Safety Plans (WSP), help utilities to identify and plan for risks to their supply system. WSP is a comprehensive, catchment to consumer, risk assessment and risk management approach helping to consistently ensure a water utility's capacity to supply safe water to its consumers. The procedure of development and implementation of a WSP follows 11 modules (steps) contributing to the provision of safe drinking-water.



Overview of Water Safety Planning

The Flood and Drought Management Tools (FDMT) project is funded by the Global Environment Facility (GEF) International Waters (IW) and implemented by UN Environment (UNEP), with the DHI and the International Water Association (IWA) as the executing agencies. The project is developing a package of web-based technical applications (tools), accessible through the Flood and Drought Portal. The tools can be applied individually or together to include information about floods, droughts and future scenarios into planning from the transboundary basin to water utility level. The project is being implemented from 2014 - 2018, and 3 pilot basins (Volta, Lake Victoria and Chao Phraya) have been identified for development and testing of the methodology and technical applications.

Utility partners



Office National de l'Eau et de l'Assainissement (ONEA), Burkina Faso



Ghana Water Company Limited (GWCL), Ghana



National Water & Sewerage Cooperation (NWSC) - Jinja, Uganda



Kisumu Water & Sewerage Company Limited (KIWASCO), Kenya



Mwanza Urban Water & Sewerage Authority (MWAUWASA), Tanzania



Provincial Waterworks Authority (PWA), Thailand



Metropolitan Waterworks Authority (MWA), Thailand

WSP support

The FDMT project is developing a methodology with technical applications (tools) to incorporate information about floods, droughts and climate change into planning. The methodology adopts an online approach providing stakeholders with access to a package of web-based tools through the Flood and Drought Portal. The tools can be used individually or together to incorporate information about floods and droughts, and likely future scenarios into planning. The approach is being tested and validated with basin and water utility stakeholders.

The WSP support tool is the entry point for water utilities and can support development and documentation of the WSP process. Additional applications including climate data and information, a library of indicators for assessing upstream risks, reporting, and drought and flood risk assessment are available through the Flood and Drought Portal. These tools can assist water utilities to secure a safe water supply in the face of climatic variability.

Engaging water utilities

Water utilities have a clear operational stake in basin resources management. Ensuring the service provisions suggests that water utilities actively engage in the management of the catchment area or work with catchment organisations to influence catchment management to secure water resources.

The FDMT project is working with water utilities across the three pilot basins, as well as engaging a wider group of utilities through the African Water Safety Planning Network, Asia-Pacific Water Safety Planning Network and other networks. Utilities have provided input on the gaps and needs for improved planning, taking part in annual technical trainings on the use of the technical applications. The training builds capacity among stakeholders while also providing an opportunity for feedback on the functionality of the applications. Continued engagement ensures that the applications are relevant.

The project is engaging with organisations such as the World Health Organization (WHO), who with the International Water Association (IWA), are leading on WSP dissemination and support to water utilities, and other organisations knowledgeable on WSP implementation. This collaboration will ensure the tools can be used by water utilities beyond the project pilot areas ensuring the sustainability of technical applications.

Flood and Drought Portal (www.flooddroughtmonitor.com)

Water utilities can adapt their planning approach to carry out risk assessment and risk management with a specific focus on floods, droughts and future scenarios. This includes targeted actions such as mapping of flood and drought prone areas, identification of hazards associated with extreme weather events, and the evaluation of the reliability of water resources during flood and drought events. A shift in approach will ensure preparedness and improved capacity to be resilient to the impacts of climate change.

Project website: fdmt.iwlearn.org

Flood & Drought Portal: www.flooddroughtmonitor.com

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